UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

MAY 29 2002

OFFICE OF
SOLID WASTE AND EMERGENCY
RESPONSE

MEMORANDUM

SUBJECT: National Remedy Review Board Recommendations for the Grasse River Study Area

FROM: Bruce K. Means, Chair
National Remedy Review Board

TO: George Pavlou, Director
Emergency and Remedial Response Division
EPA Region 2

Purpose

The National Remedy Review Board (NRRB) has completed its review of the proposed cleanup action for the Grasse River Study Area in Massena, New York. This memorandum documents the NRRB's advisory recommendations.

Context for NRRB Review

The Administrator announced the NRRB as one of the October 1995 Superfund Administrative Reforms to help control response costs and promote consistent and cost-effective decisions. The NRRB furthers these goals by providing a cross-regional, management-level, "real time" review of high cost proposed response actions prior to their being issued for public comment. The board reviews all proposed cleanup actions that exceed its cost-based review criteria.

The NRRB review evaluates the proposed actions for consistency with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) and relevant Superfund policy and guidance. It focuses on the nature and complexity of the site; health and environmental risks; the range of alternatives that address site risks; the quality and reasonableness of the cost estimates

for alternatives; regional, state/tribal, and other stakeholder opinions on the proposed actions, and any other relevant factors.

Generally, the NRRB makes advisory recommendations to the appropriate regional decision maker. The region will then include these recommendations in the administrative record for the site, typically before it issues the proposed response action for public comment. While the region is expected to give the board's recommendations substantial weight, other important factors, such as subsequent public comment or technical analyses of response options, may influence the final regional decision. The board expects the regional decision maker to respond in writing to its recommendations within a reasonable period of time, noting in particular how the recommendations influenced the proposed cleanup decision, including any effect on the estimated cost of the action. It is important to remember that the NRRB does not change the Agency's current delegations or alter in any way the public's role in site decisions.

Overview of the Proposed Action

The Grasse River Study Area covers a seven-mile stretch of the Lower Grasse River which contains approximately two million cubic yards of PCB-contaminated sediments. The PCBs in the sediments are the result of historic outfall discharges from an Alcoa facility in Massena, New York. A total of 404 acres of the river have been impacted by these discharges, from the Alcoa facility to the confluence of the Grasse River with the St. Lawrence River. These sources have been controlled under a separate state-lead cleanup. Interim actions and pilot studies have been conducted in the Grasse River, involving both dredging and capping methodologies. The site is located near the reservation of the St. Regis Mohawk Tribe.

The proposed cleanup action calls for: (1) the targeted dredging of the most contaminated sediments, with on-site de-watering and disposal of dredged materials; (2) sub-aqueous capping of areas with intermediate PCB concentrations; (3) monitored natural recovery of areas with relatively low PCB concentrations; (4) long-term operation and maintenance; and (5) five-year reviews. The estimated cost of the proposed remedy is $89.5 million and it would take five years to complete.

NRRB Advisory Recommendations

The NRRB reviewed the information packages supporting this proposal on April 23, 2002, and discussed related issues with Mary Logan (EPA Remedial Project Manager), Mel Hauptman (Chief, Sediment Projects/Caribbean Team), Doug Fischer (EPA site attorney), and Marian Olsen (EPA site risk assessor). Also participating were Tony David (St. Regis Mohawk Tribe), Lisa Rosman (National Oceanic and Atmospheric Administration), and Ann Secord (U.S. Fish and Wildlife Service). Based on this review and discussion, the board offers the following comments:

- The package presented to the board did not adequately compare Alternatives 6, 7, and 8 in terms of risk reduction, reliability, permanence or other measures of effectiveness. Since there are significant cost differences between these alternatives, the board recommends that the region clarify the benefits of the preferred alternative compared to these other alternatives in the decision documents for the site.

- The board notes that the selected fish tissue remediation goal of 0.05 ppm (based on human consumption) would not be met in the Grasse River under any of the identified alternatives within the modeled time frame extending to 2030. Nor does the region believe it can attain certain potential ARARs with any of the alternatives evaluated (i.e., ARAR waivers may be required). This is attributed, in part, to the "background" contribution of PCBs. For this reason, the board recommends that the region determine an appropriate background PCB concentration level in fish tissue (if possible) and/or sediment based on areas unaffected by site releases in order to better understand the limitations of all remedial alternatives in attaining very low cleanup targets.

- The board supports the region's analysis of alternatives based on their potential to achieve "interim remediation targets (less stringent, but still significant fish tissue concentrations based on human health). These alternate target tissue concentrations permit a meaningful comparison of short-term performance among alternatives. However, the board notes that the region has not yet completed its ecological risk assessment for the site, and that certain local species (including mink, bats, avian piscivores, etc.) may be at risk even at concentrations in the range of these human health-based interim target fish tissue levels. The board recommends that the region complete the ecological risk assessment, and establish any appropriate ecological effects-based cleanup goals to better guide the selection of a remedy for the site and to ensure environmental protection is achieved with this cleanup. Such ecological effects-based goals also may help discern advantages and disadvantages among alternatives.

- As presented, the preferred alternative relies heavily upon the stability of a cap to achieve long-term remedy effectiveness. Although this segment of the Grasse River appears to be generally well-suitable for a capping remedy, the board notes that such stability may be difficult to achieve in some cases. First, as the region notes, certain near-shore or side-slope areas may be difficult to cap effectively because of relatively shallow depths and the potential for disruptive forces (e.g., erosion, ice scour, slope failure) to damage the cap. Second, the region indicated that for the capping alternatives that also dredge, actual dredging depths may range from one foot to as many as six feet below the river bed. Alternatives which call for capping after dredging were described as utilizing a one-foot cap regardless of dredging depth. The board notes that a combination of steep excavation and the one-foot cap could result in discontinuities, thereby reducing cap effectiveness. The board recommends that the conceptual design for the cap address these issues to ensure intended effectiveness of the cap and a stable river bed. The board also notes that

these design considerations may increase costs (i.e., result in the need for additional cap material in areas of deep excavation), and, if so, these increased costs should be reflected in the decision documents for the site.

- Ten remedial alternatives were analyzed for this action. Eight of those involve capping and/or dredging contaminated sediments. The four most comprehensive capping alternatives involve capping all contaminated sediments containing greater than five ppm PCBs. None of the alternatives considered capping at levels greater than one ppm. However, the most comprehensive dredging alternative (Alternative 10) removes contaminated sediment greater than one ppm PCBs. In order to provide an appropriate comparison among alternatives, the board recommends that the region also evaluate an alternative which caps contaminated sediments containing greater than one ppm PCBs. In addition, the board recommends that the region evaluate an alternative that combines the current -Alternative 10 ("dredge > one ppm") with a cap for the areas dredged. This latter alternative would provide the most comprehensive approach to sediment remediation, and likely would result in the most protective cleanup. The evaluation of these two alternatives would provide important information for the region in considering the cost effectiveness of the full range of alternatives.

- In addition, the board notes that any selected remedy may require a combination of capping and dredging to ensure appropriate risk reduction as well as long-term reliability (especially in the shallow, near-shore areas, or where historical dredging has left the river bed too steep or otherwise difficult to cap effectively). The board recognizes also that there may be high, localized PCB concentrations that warrant removal as well. For these reasons, the board recommends that the region optimize the dredging and capping components during remedial design to maximize the immediate risk reduction and relatively low cost achieved through an engineered cap, and the longer-term reliability achieved through mass removal in appropriate areas of the river bed.

- The board notes that institutional controls (ICs) are not discussed as a component of each alternative, and yet they will likely be necessary components of all alternatives. The region should evaluate and include with each alternative appropriate ICs, continuing education, warning signs, and/or other outreach programs (like those currently administered by the New York State Department of Health and the St. Regis Mohawk Tribe). These programs and controls should address any short or long-term residual risks from consumption of PCB-contaminated fish or other foods by local anglers or tribal members, and should be discussed in the decision documents for the site.

- The board notes that a unit cost of $90 per cubic yard is used for transportation and disposal of dredged sediments regardless of the order of magnitude difference in volume between Alternatives 4 and 10. Since the receiving landfill is on site, even recognizing that transportation costs may be constant, there should be some efficiencies gained in

operational costs as volumes increase with a resultant unit cost reduction. The board recommends that the region reexamine the assumptions/rationale behind use of this $90 figure for the various alternatives.

- The preferred remedy includes capping of sediments with surficial PCB concentrations between five and 25 ppm with a 12-inch layer of a 1:1 mixture of topsoil and sand. The 12-inch thickness is intended to serve three purposes: (1) physical isolation of the PCBs in the sediment from the benthic environment; (2) erosion protection (i.e., mitigate the resuspension and transport of sediments to downstream areas); and, (3) chemical isolation (i.e., reduce the flux of dissolved PCBs to the water column. The board notes that the long-term performance of the chemical isolation component will depend on the organic carbon content of the topsoil used in the cap and on the rates of contaminant transport by diffusion and advection through the cap. The board recommends that the region ensure that these factors are adequately considered during the remedial design.

- The board notes that the region evaluated ground water only in terms of whether it is a continuing source of contamination to the river. Whether the ground water presents a human health or environmental risk by itself, or whether its quality is threatened by river sediment contaminants was not discussed. The board recommends that the region clarify in site decision documents how and when these groundwater-related questions will be addressed.

- The board notes that New York State Department of Conservation officials did not participate in the meeting or submit comments to the board for its deliberations. Input from the state would have been helpful in reviewing this proposed action for the site.

The NRRB appreciates the region's efforts in working together with the responsible party, state, Natural Resource Trustees, and community groups at this site. We encourage Region 2 management and staff to work with their regional NRRB representative and the Region 2/6 Accelerated Response Center in the Office of Emergency and Remedial Response to discuss any appropriate followup action.

Thank you for your support and the support of your managers and staff in preparing for this review. Please call me at 703-603-8815 should you have any questions.

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